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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/557,164 | 04/25/2000 | William J. Dally | 2789.2004-001 | .9280 |
| 21005 | 7590 | 11/23/2005 | EXAMINER | |
| HAMILTON, BROOK, SMITH & REYNOLDS, P.C. 530 VIRGINIA ROAD P.O. BOX 9133 CONCORD, MA 01742-9133 | | | BAYARD, EMMANUEL | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2638 | |

DATE MAILED: 11/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/557,164

Applicant(s)

DALLY ET AL.

Examiner

Emmanuel Bayard

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-66 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-15, 33-47 and 65 is/are allowed.
- 6) ☒ Claim(s) 16-32, 48-64 and 66 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 16-17, 31-32, 48-49, 63-64 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claims 16, 31, 48, 63 recite the limitation "the supply voltage" in lines 1-2 respectively. There is insufficient antecedent basis for this limitation in the claim.

Claims 17, 32, 49 and 64 are likewise rejected because they depend on a base rejected claim.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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2. Claims 18-22, 27, 30, 50-54, 59, 62 and 66 are rejected under 35 U.S.C. 102(b) as being anticipated by Franca-Neto et al U.S. Patent No 6,507,915 B1.

As per claims 18, 50 and 66, Franca-Neto teaches a data transmitter comprising: a data input (see figs.1, 3, 5 element 104); a bit clock (see figs.1, 3, 5 element 106) a high or low transition time control separator is the same as the claimed (rise or fall transition time control) (see figs. 1, 3, 5 element 110 and col.4, lines 35-50 and col.5, lines 1-35) for receiving the data input and providing a controlled data signal, the transition time control controlling the transition time of the controlled signal to be proportional to bit time of the bit clock (see col.5, lines 40-65) .

As per claims 19, and 51, the data transmitter of Franca-Neto teaches a clock signal applied the delay elements and different delays are applied to the data input (see col.4, lines 53-54 and col.5, lines 30-33).

As per claims 20, 52, the data transmitter of Franca-Neto includes a plural driver circuits (see fig.3 elements 140-148).

As per claim 21, the data transmitter of Franca-Neto includes a plural driver circuits (see fig.3 elements 140-148).

As per claims 22 and 54, the data transmitter of Franca inherently includes load capacitance.

As per claim, 53 the data transmitter of Franca-Neto includes CMOS inverters (see abstract and fig.3).

As per claims 27 and 59, Franco-Neto teaches a voltage supply to control delay of the delay elements (see fig.3 element 141 and col.4, lines 64-67).

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As per claims 59 the circuit of Franca-Neto does include a supply voltage (see col.4, lines 64-65) to control the delay elements.

As per claims 30 and 62, the data transmitter of Franca-Neto inherently includes voltage supply compensate for environmental changes in delay.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 23-26, 28-29, 31-32, 55-58, 60-61, 63-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Franca-Neto U.S. Patent No 6,507,915 B1 in view of O' Sullivan U.S. Patent No 6,259,755 B1.

As per claims 23 and 55 Franca-Neto all the features of the claimed invention except parallel delay elements.

O' Sullivan et al teaches parallel delay elements (see fig.15).

It would have been obvious to one of ordinary skill in the art to implement the teaching of O' Sullivan into France-Neto as to accurately synchronize the input time delayed data with clock data.

As per claims 24-25, 56-57 the data transmitter of Franca-Neto includes a plural driver circuits (see fig.3 elements 140-148). Furthermore implementing such

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teaching into Franca-Neto would have been obvious to one skilled in the art as to accurately synchronize the input data with clock data.

As per claim 53, Franca and O'Sullivan et al in combination would include CMOS inverters as to enhance the transmitter capability in generating equal voltage supply to each driver

As per claims 26 and 54, 58, the data transmitter of Franca and O'Sullivan et al in combination would include load capacitance as to enhance the transmitter capability in generating equal voltage supply to each drivers.

As per claims 28-29, 31-32, 60-61, 63-64 Franca-Neto all the features of the claimed invention except a circuit to control power supply voltage to the delay elements the circuit comprising: a first and second delay elements (see fig.15), each receiving a common clock signal and a phase comparator (see fig.15 elements PFD) which compares the outputs of the first and second delay elements and control a supply voltage applied to the first and second delay elements to control phase difference of the outputs.

O' Sullivan et al teaches a circuit to control power supply voltage to the delay elements the circuit comprising: a first and second delay elements (see fig.15), each receiving a common clock signal and a phase comparator (see fig.15 elements PFD) which compares the outputs of the first and second delay elements and control a supply voltage applied to the first and second delay elements to control phase difference of the outputs (see col.11, lines 19-25).

It would have been obvious to one of ordinary skill in the art to implement the teaching of O' Sullivan into France-Neto as to accurately synchronize the input data with clock data.

Allowable Subject Matter

5. Claims 1-15, 33-47, 65 are allowed.
6. Claims 16-17, 31-32, 48-49 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
7. The following is a statement of reasons for the indication of allowable subject matter: a data output that combines the delayed data signals, a rise or fall transition time of the data output being determined by different delays applied to the data input wherein the rise or fall transition Time of the data output signal is greater than the rise or fall transition time of the data input as recited in claim 1, 33 and 65.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Suzuki et al U.S. patent No 5,845,109 teaches an operation unit.

Hetyei U.S. Patent No 4,694,200 teaches a device for detecting a pulse train.

Shirai U.S. Patent No 6,140,835 teaches an input buffer circuit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Bayard whose telephone number is 571 272

3016. The examiner can normally be reached on Monday-Friday (7:Am-4:30PM)

Alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vanderpuye Kenneth can be reached on 571 272 3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

11/21/05

Emmanuel Bayard
Primary Examiner
Art Unit 2631


